Control of Restricted Product
Module 17

Objectives

After completing the module on Control of Restricted Product, the trainee will be able, without the aid of references, to:

1. Define "restricted product."

2. List the four restricted product categories and identify those conditions or diseases that are classified under each of the four categories.

3. Identify true statements pertaining to the control of restricted products.

4. Select the proper definitions for the terms "passed for cooking" and "passed for heating."

5. Select, from a list of treatments, three acceptable means of treating pork for trichinosis (infestation with the microscopic parasite *Trichinella spiralis*).

6. Given a group of conditions or diseases, select those that would necessitate that the product be handled as restricted product.

7. Identify the time and temperature requirements for cattle "passed for refrigeration" affected with cysticercosis (beef measles) when the treatment is on:

   a. carcasses

   b. boxed beef

8. Select true statements about the forms used to document actions taken regarding restricted product (FSIS Form 6750-2 "Daily Report of Meats Passed for Cooking" and FSIS Form 7350-1 "Request and Notice of Shipment of MPI Sealed Meat/Poultry").

9. Describe the exception to the rule that restricted product must be shipped from one establishment to another under seal and describe how this product must be labeled and packaged.

10. Select from a list the six items of information about restricted product that must be maintained on file in the government office.

Module 17
Control of Restricted Product

Restricted product is defined as any meat or meat food product that has been inspected and passed but cannot be released for human consumption until it has been subjected to a required treatment. There are four types of restricted product treatments. They are:

- Refrigeration
- Heating
- Cooking
- Use in comminuted cooked meat food product

Restricted product will be used for human food after required treatments are complete. For this reason, condemned and inedible products are not examples of restricted product. Many other times we will require plant employees to perform a task such as trimming contamination or removing an arthritic joint before releasing the product for human food. These types of routine "restrictions" are not included in our definition of restricted product.

It is vitally important that control is maintained over restricted product. FSIS inspection personnel must ensure that all restrictions are met before products are used as human food. Failure to adequately control certain products may result in the transfer of disease from the product to the consumer.

One example is pork with cysticercosis (pork measles). This parasite is transmissible to humans. When a swine carcass is retained for cysticercosis and the veterinarian finds that the lesions are not extensive enough to merit condemning the entire carcass, he/she will stamp the carcass "Passed for Cooking." The treatment of these carcasses involves trimming all visible lesions. The carcass is then cooked sufficiently to destroy any unseen lesions. Only then can the carcass be released for use as human food.

Two other examples of carcasses passed with a restriction because of a condition potentially transmissible to humans are those with tuberculosis and beef measles (cysticercosis). Localized lesions must be removed from these carcasses. TB carcasses may be passed for cooking, while beef measles carcasses may be passed for heating or refrigeration (freezing).

Some carcasses may be passed with a restriction for reasons other than disease. A hog carcass with less than pronounced sexual odor would probably not harm the

consumer. The odor, however, would likely be offensive and repugnant to the vast majority of consumers. These carcasses are therefore restricted for aesthetic reasons.

Control of any restricted product begins at the time the veterinarian makes a disposition. First, a decision is made to pass the carcass with a restriction. A thorough check is made to see that all visible lesions are removed from the carcass. If any additional lesions are discovered at a later time (while the carcass is being boned for example), the veterinarian will make a new disposition based on the new findings.

Inspection personnel are responsible for maintaining the identity and security of the restricted product until all of the restrictions have been met. Depending on the circumstances, this may be the responsibility of the veterinarian, the food inspector, or both. Maintaining identity and security means keeping the product in sight or under lock or seal.

Some plants have adequate facilities for handling restricted product. For example, inspection personnel can lock or seal restricted product in a retain cage until the restrictions are met. For plants that do not have such facilities, a provision in the regulations allows them to ship restricted product to another official establishment that has facilities. To maintain security, the restricted product must be shipped under official government seal.

In certain cases, plants may elect to bone a restricted carcass prior to the carcass undergoing a specified treatment. Inspection must still maintain security. As an example, the plant manager may request that, in order to bone a carcass with beef measles passed with a freezing restriction, the plant be allowed to remove it from the retain cage. An inspector must release the carcass from the retain cage and accompany the plant employee as he/she takes the carcass to the boning area. Once the carcass is in the boning area, it must be boned in a manner that prevents it from being intermingled with non-restricted product. If the restricted product is to be boned out prior to regular boning operations, all restricted product must be removed and the entire boning area must be thoroughly cleaned before regular boning commences. This must include employee equipment such as knives, hooks, and scabbards used while boning restricted product. To avoid a complete cleaning of the boning area, the plant may elect to bone the restricted product after regular boning operations are completed. This is acceptable, however, all non-restricted product must be prevented from contacting or becoming intermingled with non-restricted product. Anytime restricted product is being handled, it must be under the direct control of inspection. For boning, this means under direct visual surveillance or secured in a locked or sealed boning room.

Records must be kept on boneless restricted product as well as on other restricted product. The records should be kept on file in the government office. The records should contain the following information:

1. U.S. Retain tag numbers(s).

2. Quantity of restricted product(e.g., number of carcasses, pounds boned, or pounds boxed).

3. Quantity of condemned material (i.e., trimmed visible lesions).

4. Destination of product (if shipped under seal).

5. Inspector's name

6. Date

The four passed with restriction categories are:

- Refrigeration
- Heating
- Cooking
- Comminuted cooked food product

PASSED FOR REFRIGERATION

There is only one product for which the veterinarian may make a disposition of "Passed for Refrigeration." Only carcasses that are moderately affected with beef cysticercosis (beef measles) may be passed with a refrigeration restriction. This actually means the carcass or boned meat must be frozen. Freezing this product destroys any tapeworm cysts that were not identified and removed during inspection.

The regulations list separate and specific time/temperature treatment requirements for carcasses and boxed boned meat affected with beef measles that have been designated "Passed for Refrigeration" by the veterinarian.

Carcasses affected with beef measles that have been passed for refrigeration must be appropriately identified by retain tags and held in cold storage under control of a program employee at a temperature not higher than 15 degrees F (-9 degrees C) *continuously* for a period of not less than 10 days. The thermometer used to monitor the temperature must be of "Hi/Lo" or some other type that has the capability to record the highest temperature reached during the entire treatment period. Temperatures should be checked and recorded on a daily basis. If the temperature exceeds 15 degrees F at any time during the 10-day treatment period, the treatment is invalid and the time period for treatment must be started over again at day one. The carcass may be branded with a "US INS'P and PASSED" brand prior to placing it in the freezer. This

is allowed because it would be very difficult to apply a legible brand to a frozen carcass. After a successful 10-day treatment period, the plant is then free to ship the carcass.

Carcasses may be boned under control prior to freezing. *Boxed boned product* with a passed-for-refrigeration restriction must be appropriately identified by retain tags and held at a temperature not higher than 15 degrees F continuously for a period of not less than 20 days. Note that the temperature requirement for boxed boned product is the same as for carcasses, but the time requirement is twice as long. This is because boxed product takes longer to freeze. During boning, the plant is permitted to place the boned meat from restricted carcasses directly into boxes bearing the mark of inspection. The boxes can then be retained in the freezer for the 20-day period. The plant is allowed to do this to avoid considerable unnecessary work in transferring unmarked frozen meat to boxes bearing the mark of inspection.

PASSED FOR HEATING

There are two conditions that may be "Passed for Heating" by the veterinarian. One is cysticercosis of sheep (sheep measles), the other cysticercosis of beef (beef measles). Notice that beef measles may be passed for refrigeration or passed for heating. A cattle or sheep carcass, or meat derived from such carcasses passed with a heating restriction, must be heated throughout to a minimum internal temperature of 140°F.

PASSED FOR COOKING

Certain carcasses may be "Passed for Cooking." Carcasses passed for cooking must reach a minimum temperature of 170°F for not less than 30 minutes. These carcasses are marked with a "US Passed for Cooking" stamp by the veterinarian when he or she makes this disposition.

Rendering the restricted carcass and parts into lard, pork fat, or tallow will accomplish the 170°F for 30 minutes requirement. The cooking and rendering of restricted product must be performed under the control of inspection. Once the restricted product is placed into the rendering tank, the tank must be secured with an official government lock or seal to maintain control and prevent removal of its contents. The inspector removes the seal and releases the product after the time/temperature requirements have been met.

Carcasses with the following conditions may be passed with a cooking restriction:

- Tuberculosis
- Caseous Lymphadenitis
- Miscellaneous parasitic conditions not transmissible to man.
- Swine cysticercosis (pork measles)

PASSED FOR USE IN COMMINUTED COOKED PRODUCT

The fourth group of restricted product consists of those carcasses passed for use in comminuted cooked product. There is a difference between this restricted product category and "Passed for Cooking." Passed for cooking requires subjecting the product to 170°F for not less than 30 minutes. There is not such a time/temperature requirement with product passed for comminuted cooked product. The only restriction imposed on these products is that they be used only in comminuted cooked products. Comminuted cooked food products are those that are finely ground and have a uniform appearance, such as frankfurters and bologna. These products are normally cooked at a temperature near 160°F.

There are two conditions for which carcasses may be passed for use in comminuted cooked product by the veterinarian. The first is certain carcasses affected with eosinophilic myositis (EM). The plant may ship these carcasses prior to meeting the required restrictions. As with control of other restricted product, carcasses with EM passed for use in comminuted cooked product must be shipped under official seal.

The other product in this restricted category are boar carcasses with less than pronounced sexual odor. As in the case with all restricted product, inspection must have positive control over these carcasses. A retain tag is used to identify carcasses passed for use in comminuted cooked product. If boar carcasses or parts with less than pronounced sexual odor are to be shipped elsewhere for boning, rendering, or use in comminuted cooked product, they must be shipped under seal like all other restricted product. However, if the boned, boxed meat from these carcasses is properly packaged and labeled "Boar Meat for Use in Comminuted Cooked Product Only," shipping under seal is not necessary. Restricted boar meat properly packaged and labeled this way is the only exception to the rule that restricted products must be shipped from one establishment to another under seal.

For review purposes, the following chart lists those conditions that the veterinarian may pass with a restriction, the regulation reference and the specific restrictions.

CONDITION	**REG.**	**FREEZING (15°F) Days: 10-carcass 20-boxed**	**COOKING 170°F/ 30 min.**	**HEATING 140°F**	**COMM. COOKED PRODUCT**
Beef Measles	311.23	X		X	
Sheep Measles	311.25			X	
Pork Measles	311.24		X		
Tuberculosis	311.2		X		
Caseous Lymphadenitis	311.18		X		
Parasites (not transmissible to humans)	311.25		X		
Sexual Odor Of Swine	311.20				X
Eosinophilic Myositis (EM)	311.35				X

TRICHINOSIS

Trichinosis is a disease in humans that may be contracted from swine carcasses infested with the parasite *Trichinella spiralis*. This parasite is microscopic and there are no inspection procedures performed in the United States to detect its presence. Some pork products are treated to destroy trichinae. These pork products, however, are not considered as passed with a restriction. Trichinae control in the U.S. relies on consumer education. That is, all pork muscle products are considered potentially contaminated and must be thoroughly cooked before being eaten.

This is quite different from many European countries. They often utilize special techniques to examine carcasses for the presence of trichinae and therefore when product from the United States is exported to these countries, and export certificate certifying that products have been treated to destroy trichinae must accompany the shipment.

Our regulations state that all pork products having the appearance of being ready-to-eat must be treated to destroy trichinae before leaving the plant. Regulation 318.10

describes in detail acceptable methods that may be used to destroy trichinae. The three methods currently approved for treating pork for trichinae are:

- Heating
- Refrigeration (Freezing)
- Curing

Irradiation (gamma irradiation) is also approved for trichinae control. However, it is considered to be an "additive" rather than a treatment.

Certain pork products have been exempted from the requirement that they be treated to destroy trichinae. They include:

- Pork hearts, stomachs, and livers.
- Pork products that will normally be cooked sufficiently in the home, such as fresh pork, bacon, jowls, and unsmoked fresh sausage.
- Pork from carcasses or carcass parts that have been analyzed by an approved laboratory and found free of trichinae.

As a safety factor, inspection personnel should consider all pork to be potentially contaminated with trichinae. This is why pork products must be kept separate from meat products of all other species. If pork and beef are both boned in the same plant, a complete separation of the two products must be maintained at all times. This must either be a physical separation of the products or the two products must be worked at different times. For example, if pork is boned on a table in the morning, and beef is to boned on the same table later in the day, a thorough cleanup of the area and all equipment must be done before the beef is processed in order to prevent cross-contamination. An alternative to this would be for the plant to process pork at the end of the day after all other product has been removed and there is no possibility that non-pork products could come in contact with pork products. The same rule applies to grinding product. A small amount of pork tissue left in the grinder could potentially contaminate beef if there was not a thorough cleaning and sanitizing of the grinder between the two products. If pork products were ground after all other product had been ground and removed from the area, a cleanup of the grinder would not be required. One final example: Some plants may be allowed to reuse shipping containers if the containers are in good condition. You would not allow this practice if the containers had previously been used to package pork products and the plant wished to use them again for beef, lamb, or some other species. Always be alert for potential cross-contamination and its possible deleterious effects on public health.

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Supplement

1. Are products passed for refrigeration and products passed for use in comminuted cooked meat food products examples of restricted products?

   _____ yes _____ no

2. Restricted products can only be used for animal food after the restrictions are met.

   _____ true _____ false

3. Some carcasses may be passed restricted for aesthetic reasons. One such example would be hog carcasses with less than pronounced sexual odor.

   _____ true _____ false

4. Which of these is *not* an example of a restricted product?

   A. Beef carcass with slight infestation of beef measles (cysticercosis)
   B. Swine carcass with slight sexual odor
   C. Sheep carcass that has had a bruise trimmed and removed from the front leg

5. Restricted products include only those products that have been restricted for aesthetic reasons, such as slight sexual odor in swine.

   _____ true _____ false

6. The control of a restricted product does not begin until it reaches the boning room.

   _____ true _____ false

7. Restricted product must be kept in your custody. This means:

   A. Keeping it in your sight
   B. Keeping it under seal or lock
   C. Either A or B

8. Shipment of restricted product to another establishment requires a(n)

   A. Official government seal
   B. Establishment seal
   C. Truck or railroad company seal

9. One precaution that should be taken when boning a restricted carcass is to have it done under the direct supervision of a program inspector.

   _____ true _____ false

10. In the boning area, it is permissible to allow restricted product to be intermingled with non-restricted product because they will both end up as human food.

    _____ true _____ false

11. A beef carcass is passed for heating because it had a moderate infestation of beef measles (cysticercosis). It is not necessary to remove the visible lesions because the heating will destroy the cysts anyway.

    _____ true _____ false

12. When a carcass is passed for heating, the meat derived from the carcass must be heated throughout to a temperature of:

    A. 130F
    B. 140F
    C. 170F

13. Passed for cooking means that the product must reach 170 degrees F (77C) and be maintained at that temperature for at least:

    A. 5 minutes.
    B. 15 minutes.
    C. 30 minutes.

14. There are provisions that allow shipment of restricted product from one plant to another if the shipment is made under government seal.

    _____ true _____ false

15. If a plant wishes to bone out a restricted carcass, it must be done under direct supervision of a program employee.

    _____ true _____ false

16. Beef carcasses passed for refrigeration may be marked "U S Inspected and Passed" just before the plant puts them into the freezer as long as it is done under your supervision or control.

_____ true _____ false

17. During boning operations, the establishment, under your supervision, is permitted to place the boned meat from carcasses restricted because of beef measles (cysticercosis) directly into boxes bearing the mark of inspection.

_____ true _____ false

18. Freezing is the only permissible method to destroy trichinae in pork products.

_____ true _____ false

19. Select the proper definition for the term "passed for refrigeration" when applied to the restriction of a cattle carcass with beef measles.

_____ This means that the cattle carcass must be maintained at not more than 40 degrees F for a period of not less than 20 days.
_____ This means that the cattle carcass must be maintained at not less than 10 degrees F for a period of not less than 15 days.
_____ This means that the cattle carcass must be maintained at a temperature of not more than 15 degrees F for a period of not less than 10 days.

20. Which of the following are acceptable methods for treating pork for trichinae? (Mark your choice(s) with an X.)

_____ Heating to an internal temperature of 120 degrees F for 21 hours
_____ Freezing to an internal temperature of -20 degrees F for 24 hours
_____ Heating to an internal temperature of 144 degrees F or more
_____ Freezing to an internal temperature of 0 degrees F for 106 hours
_____ Special curing involving high salt and/or drying
_____ Smoking with hardwood smoke for 6 hours

21. Which type of restricted product does not have to be shipped under seal from one official establishment to another?

How must this restricted product be labeled?

22. Identify the true statements about the use of the FSIS Form 6750-2 or the FSIS Form 7350-1 for controlling restricted products. (Mark your choice(s) with an X.)

_____ The FSIS 6750-2 is a daily report of the handling of product passed for cooking.

_____ The FSIS 6750-2 is a weekly report of the handling of certified frozen pork products.

_____ The FSIS Form 7350-1 may be used to ship restricted products from one official establishment to another.

_____ The FSIS Form 7350-1 is an export form for the countries that require fresh of frozen horsemeat and horsemeat byproducts be certified that they have been subjected to freezing to destroy trichinae.